

IN THE CLAIMS:

Please cancel claims 2 and 13 without prejudice.

Please amend claim 1, 12, 21, 23, and 24 as indicated below.

A listing of the status of all claims 1-24 in the present patent application is provided below.

1 (Currently Amended). A method for tracing source addresses of packets, the method comprising:

receiving a current packet at a first network element;

identifying at least part of a source address of the current packet;

querying a storage module of the first network element to identify at least one source address of a previously received packet, wherein the at least one source address of the previously received packet is recorded in a hierarchical data structure and the hierarchical data structure is based at least in part on a plurality of classes of subnets;

determining whether the at least part of the source address of the current packet matches at least part of the at least one source address of the previously received packet; and

routing the current packet to a second network element if the at least part of the source address of the current packet

matches at least part of the at least one source address of the previously received packet.

2 (Cancelled).

3 (Previously Presented). The method according to claim 1, where a Last Time Seen (LTS) value associated with each of the at least one source address of the previously received packet is recorded.

4 (Previously Presented). The method according to claim 1, further comprising:

recording an arrival time of the packet.

5 (Previously Presented). The method according to claim 1, further comprising:

routing the current packet to the second network element with a warning if the at least part of the source address of the current packet does not match at least part of the at least one source address of the previously received packet; and

recording the at least part of the source address of the current packet and reception time of the current packet.

6 (Original). The method according to claim 5, where the warning is recorded in a read-only medium.

7 (Previously Presented). The method according to claim 1, further comprising issuing a warning and discarding the current packet if the at least part of the source address of the current packet does not match at least part of the at least one source address of the previously received packet.

8 (Original). The method according to claim 7, where the warning is recorded in a read-only medium.

9 (Previously Presented). The method according to claim 1, where the source address of the current packet is an internet protocol (IP) address.

10 (Cancelled).

11 (Previously Presented). At least one processor readable storage medium for storing a computer program of instructions configured to be readable by at least one processor for instructing the at least one processor to execute a computer process for performing the method as recited in claim 1.

12 (Currently Amended). A system for tracing source addresses of packets comprising a first network element for receiving a current packet, where the first network element comprises:

a processor module that identifies at least part of a source address of the current packet, queries to identify at least one source address of a previously received packet, wherein the at least one source address of the previously received packet is recorded in a hierarchical data structure and the hierarchical data structure comprises a plurality of classes of subnets, determines whether the at least part of the source address of the current packet matches at least part of the at least one source address of the previously received packet, and routes the current packet to a second network element if the at least part of the source address of the current packet matches at least part of the at least one source address of the previously received packet; and

a storage module that stores the at least one source address of the previously received packet.

13 (Cancelled).

14 (Previously Presented). The system according to claim 12,

where a Last Time Seen (LTS) value associated with each of the at least one source address of the previously received packet is recorded.

15 (Previously Presented). The system according to claim 12, where the processor module is further adapted to record reception time of the current packet.

16 (Previously Presented). The system according to claim 12, where the processor module is further adapted to:

route the current packet to the second network element with a warning if the at least part of the source address of the current packet does not match at least part of the at least one source address of the previously received packet; and

record the at least part of the source address of the current packet and reception time of the current packet.

17 (Original). The system according to claim 16, where the warning is recorded in a read-only medium.

18 (Previously Presented). The system according to claim 12, where the processor module is further adapted to issue a warning and discard the current packet if the at least part of the

source address of the current packet does not match at least part of the at least one source address of the previously received packet.

19 (Original). The system according to claim 18, where the warning is recorded in a read-only medium.

20 (Previously Presented). The system according to claim 12, where the source address of the current packet is an internet protocol (IP) address.

21 (Currently Amended). A system for tracing source addresses of packets, the system comprising:

means for receiving a current packet at a first network element;

means for identifying at least part of a source address of the current packet;

means for querying a storage module to identify at least one source address of a previously received packet, wherein the at least one source address of the previously received packet is recorded in a hierarchical data structure and the hierarchical data structure comprises a plurality of classes of subnets;

means for determining whether the at least part of the

source address of the current packet matches at least part of the at least one source address of the previously received packet; and

means for routing the current packet to a second network element if the at least part of the source address of the current packet matches at least part of the at least one source address of the previously received packet.

22 (Previously Presented). The method according to claim 1, wherein the at least one source address of the previously received packet is recorded within a predetermined time period prior to receiving the current packet.

23 (Currently Amended). The method according to claim 21, wherein the plurality of classes of subnets comprises at least one of a class A subnet, a class B subnet, and a class C subnet, wherein the class A subnet comprises a first octet of the at least one source address recorded, the class B subnet comprises a second octet of the at least one source address recorded, and the class C subnet comprises a third octet of the at least one source address recorded.

24 (Currently Amended). The method according to claim 23,

wherein determining whether the at least part of the source address of the current packet matches at least part of the at least one source address of the previously received packet comprises comparing the at least part of the source address of the current packet with at least one of the plurality of classes of subnets of the at least one source address of the previously received packet.